BOOK REVIEWS

Voyage to the Moon, The Epic of Man in Space ;

By Rosskote Krishna Pillai, 1969, pp 156, Price Rs. 6. 50 ; Orient Longmans, Bombay, Madras, Calcutta, New Delhi.

It is a quite readable little book, written in epic style, rather than scientific, and gives in a collected form practically all information on space-flight and Moon-travel published from time to time in news letters and information circulars. A large number of well reproduced illustrations doubles the pleasure of reading. Without reducing in any way the credit of the author in giving the lay public a nice book of very topical interest, we may make a few remarks for consideration in future editions of the book.

On page 19, 3rd para the last sentence : "But this duration varies because the moon, like all the planets, is constantly under the influence of other planets, the earth and the sun" is not happy.

Popular writers are surely permitted to use approximate numbers in giving data but it appears to be stretching the point too far when in 6th and 7th para of page 19, the volume of the moon is given as 1/50th that of the earth, whereas, the diameter is given as 1/4. Also the mass of the moon is given as 1/80th that of the earth, and the gravity is given as 1 6, which latter is then too small if the diameter is taken as 1/4. On page 21 last paragraph, the readers might be interested to know the cause of difference in *sider al* month and *synodic* month. Some information on the lunar tidal effects on earth would complete the information on "Our Inseparable Companion". Page 33, para 1 : Surely the author can feel gravity, can he not ? para 2 : "Life on earth without gravity would be miserable, walking would be difficult, we would have to leap from place to place. Rain would not fall, there would be no water falls. We would be weightless, everything would be weightless". We should be thankful if this is the utmost that could happen to us in the absence of gravity !

Page 33. 1st para, last sentence : "Thus when we weigh ourselves we are in fact measuring our mass plus the pull of gravity" is too loose a statement even for school children. 2nd para 2nd sentence : " ....had thought of an invisible force . ....". Is it possible to think of a visible force ? 4th para : It would be better to speak of "acceleration" rather than "velocity" unless we qualify it by stating "at the same height".

Page 35 last para : It is never possible to "..... go away from the gravitational pull" altogether. Page 37, para 4 : The explanation of reaction is very loosely stated and would create wrong impression of Newton's 3rd law in the minds of school children or lay public. Same applies to page 37 last sentence, which is quite wrong.

On page 86 1st para, "The first to circle round and land on Moon was not man but a vehicle made by man". The expression is very loose ; can a man go round and land on Moon without a vehicle ?

On page 100, the correct temperature of liquid oxygen at normal atmospheric pressure should be −183°C.

On the same page and the next, 2nd stage is stated to lift the vehicle to "a height of 182 km" and 3rd stage to an "altitude of 184 km"; both cannot be correct. Page 102, 4th para: "The module is coated with a special material which burns off when it reenters the atmosphere at 2760°C" How could it get so heated outside the atmosphere? What is the temperature thereafter and what protects the module during the rest of the journey through atmosphere, if the coating has already burnt off?

It would be very useful if in going to the next edition, the author gets the book revised by a scientist. Otherwise, the initial success in presenting a book of this nature to the public may be more than counterbalanced by the doubts arising in the minds of logical readers.

A. B.

The World of Mars

By V.A. Firsoff, 1969, pp 128, Price 7sh 6d, Oliver & Boyd, Edinburgh.

This little book covers practically the entire information available on the planet Mars up-to-date. The author is himself a well known worker in Areology and speaks with authority and conviction on the subject. The writing is informative, instructive and intriguing. The confrontation between telescopic and other earthbound instrumental observations and the close range but limited observations by Mariner 4 probe, has been critically discussed to show the pitfalls in arriving at conclusions on Martian geography, geology, meteorology and ecology derived from either class of data. The mysteries of Schiaparelli's "Canals", the seasonal color and topological variations constituting some of the most intriguing and controversial subjects on Mars, have been given as logical an explanation as to be expected, considering all the conflicting data. A layman to fully appreciate the book would be expected to have a fairly good knowledge of several associated subjects, but for the specialist it should be a source of pleasure to go through the book and ruminate over the many problems of Mars, only the fringe of which appears to have been touched as yet. There seems to be now little logical doubt that Mars mostprobably contains plant and bacterial life and the necessary factors for their sustenance. Whether the "Canals" of Mars are really subterranean aqueducts, whether some of the observed mushrooming clouds on Mars are from nuclear explosions or whether the mysterious twin satellites of Mars are really huge spacecrafts indicating the existence and activities of superhuman Martians, a positive answer to such speculations, according to the author, are improbable but not impossible! Without more unambiguous data it is still premature to build up a theory of the Martian World, but the day is perhaps not very far off when manned earth spacecrafts going round or landing on Mars itself will settle all controversy. Till then most of the theories on Mars are to remain "not proven for the time being" as the author very cautiously asserts.

A.B.